



AN ISO 9001 : 2008 COMPANY & NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005

4, 7TH MAIN MALLESWARAM, BANGALORE -3

Certificate No.: TC-5548

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2017-11-06-05 **Date:** 09-11-17
Customer : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address : Shettyhalli Sub Division, BBMP, Bangalore.
Project Name : Improvements to roads & drains at Anjaneya Temple area Abbigere in ward No.12 in Shettyhalli sub division.
Agency : Technical Manager(West), KRIDL, Project Implementation unit, No.280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block Rajajinagar, Bangalore-560 010.
Customer's Reference : BBMP/EE/DD/WO/118/2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 06-11-17
Sample ID No : 2017-11-06-05/01
Sample Type : ACC 53grade
Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
 IS 4031 (Part 1,2 3,4,5, 6,11):1988
 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
 IS 4031 Part 3, Determination of Soundness, Clause 5, Clause 6
 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
 IS 4031 Part 11, DETERMINATION OF DENSITY , Clause 6

Date of test : 07-11-17

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.28	—
2	Finess by Air permeability method (m ² /kg, Min)	274.6	225m ² /kg, Min
3	Density (gm/cc)	3.12	—
4	Standard Consistency (%)	29%	Not specified
5	Initial Setting time	155 minutes	Not less than 30 minutes
6	Final Setting time	240 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.
 All information furnished by Customer/Representative
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 Samples will be disposed after 90 days from the date of issue of test certificate

AE-12
 ಸಹಾಯಕ ನಿರ್ದೇಶಕರು
 ಶಿಬಿರ ಹಾಗೂ ಉಪನಿರ್ದೇಶಕರು
 ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
 ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು



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R. Karthik Rechan
R KARTHIK RECHAN
 Authorized Signatory
 Quality Manager



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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2017-11-06-05 **Date:** 05-12-17

Customer : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.

Address : Shettyhalli Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads & drains at Anjaneya Temple area Abbigere in ward No.12 in Shettyhalli sub division.

Agency : Technical Manager(West), KRIDL, Project Implementation unit, No.280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block Rajajinagar, Bangalore-560 010.

Customer's Reference : BBMP/EE/DD/WO/118/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 06-11-17

Sample ID No : 2017-11-06-05/01

Sample Type : ACC 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 6, Determination of Compressive Strength, Clause 6

Date of test : 07-11-17

Compressive Strength			
Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	29.0N/mm ²	Not less than 27 N/mm ²
2	7 Days	38.0N/mm ²	Not less than 37 N/mm ²
3	28 Days	55.0N/mm ²	Not less than 53 N/mm ²

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ಸಹಾಯಕ ನಿರ್ದೇಶಕರು
ಪಟ್ಟಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದ, ದಾಖಲೆಗಳನ್ನು ಪೂರೈ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಮಹ.ನಿರ. ಕಛೇರಿ, ಕಮಲಾಕ್ಷಿಪುರ, ಬೆಂಗಳೂರು



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R. K. KHANNA
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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****End of Report****

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TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2017-11-06-05 Date: 10-11-17

Customer : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.

Address : Shettyhalli Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads & drains at Anjjaneya Temple area Abbigere in ward No.12 in Shettyhalli sub division.

Agency : Technical Manager(West), KRIDL, Project Implementation unit, No.280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block Rajajinagar, Bangalore-560 010.

Customer's Reference : BBMP/EE/DD/WO/118/2017-18

Source of Sample : Sample supplied by Agency

Sample condition : Satisfactory

Date of Receipt : 06-11-17

Sample ID No : 2017-11-06-05/02(a)

Sample Type : 40mm down size coarse aggregate

Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption
IS 2386 Part 4: Mechanical Properties

Date of test : 07-11-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	342	342	2.3	97.7	90-100
3	20 mm	5439	5781	38.5	61.5	30-70
4	10 mm	4579	10360	69.1	30.9	10-35
5	4.75 mm	4260	14620	97.5	2.5	0-5
6	Pan	380	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2017-11-06-05

Date: 10-11-17

Sample ID No : 2017-11-06-05/02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.6	
3	Specific Gravity	2.67	—
4	Bulk Density(Loose) (Kg/l)	1.54	—
5	Bulk Density(Compacted) (Kg/l)	1.58	—
6	Water Absorption(%)	0.21	—

Note:

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Samples will be disposed after 90 days from the date of issue of test certificate

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ಸಹಾಯಕ ನಿರ್ದೇಶಕರ ಅಭಿಯಂತರರು
ಶಿಕ್ಷಣ ಮತ್ತು ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ಪಾಲಿಕೆ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು



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R. Karthik

R KARTHIK RECHAN

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Quality Manager

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Agency : Technical Manager(West), KRIDL, Project Implementation unit, No.280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block Rajajinagar, Bangalore-560 010.
Customer Reference : BBMP/EE/DD/WO/118/2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 06-11-17
Sample ID No : 2017-11-06-05/02(b)
Sample Type/ Size : 20mm down size coarse aggregate
Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption
IS 2386 Part 4: Mechanical Properties
Date of test : 07-11-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	214	214	4.3	95.7	90-100
3	10 mm	2435	2649	53.0	47.0	25-55
4	4.75 mm	2134	4783	95.7	4.3	0-10
5	Pan	217	5000	100	0	-

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Lab ID : CP-2017-11-06-05

Date: 10-11-17

Sample ID No : 2017-11-06-05/02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.4	
3	Specific Gravity	2.69	—
4	Bulk Density(Loose) (Kg/l)	1.48	—
5	Bulk Density(Compacted) (Kg/l)	1.53	—
6	Water Absorption(%)	0.22	—
7	Aggregate crushing Value(%)	22.9	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	22.1	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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